

REMARKS

Claims 1, 19, 22, and 23 have been amended. Claim 24 has been added. Support for claim amendments and the new claim is found in the original specification, inter alia, in Figures 9-12 and 23-25. Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons which follow.

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

Status of prosecution

Applicant has filed concurrently herewith a Request for Continued Examination (RCE). On January 10, 2002, a final office action was issued. Applicant presented an amendment under 1.116 on June 10, 2002. An advisory action was mailed on June 19, 2002. Applicant filed a Notice of Appeal on July 9, 2002, to maintain pendency of the present application. Applicant now files the RCE in lieu an appeal brief (as permitted under 37 CFR 1.114), along with a Petition for a Four Month Extension of Time, so that the Examiner can consider the present amendment and the new evidence, in the form of a Declaration under Rule 1.132, executed by Dr. Rainer Schuhmann and Witold Hackemer, which addresses the issue of enablement. Applicant respectfully submits that this Declaration provides evidence to show that a person of ordinary skill in the art could make and practice the claimed invention based on the teachings of the application without undue experimentation.

Claim Amendments

Applicant submits herewith amendments to claims 1, 19, 22, and 23, to correct an inadvertent typographical error in Applicant's previous amendment of June 10, 2002. Applicant noticed that the mathematical symbol " \geq " was missing from the print out version of the amended claims submitted in the June 10, 2002 amendment. Applicant has replaced the symbol " \geq " with "greater than or equal to" in order to avoid this problem in any future communications. Applicant respectfully submits that this amendment does not add new

matter and is fully supported by the original specification. See e.g., Amendment dated November 9, 2001, Remarks section, pages 8-9.

Applicant further notes that the Advisory Action dated June 19, 2002, does not indicate that the claim amendments of the June 10, 2002 amendment were not entered, only that the previous arguments were not persuasive. If, in fact, the amendments of June 10, 2002 were not entered, applicant respectfully requests entry of such amendments, as well as entry of the present amendments noted above.

The Enablement Rejection

Applicant respectfully submits herewith, a faxed copy of a Declaration under 37 CFR 1.132, executed by Dr. Rainer Schuhmann and Witold Hackemer. Applicant respectfully requests that the Examiner consider this evidence that shows that the present specification enables a person skilled in the art to make and use the claimed invention. Accordingly, applicant respectfully submits that the specification is enabling, and that the claims are in condition for allowance, for at least the reasons above and for the reasons expressed in the amendment dated June 10, 2002.

Applicant further requests a personal interview between the Examiner and Applicant's representative to discuss this rejection prior to the issuance of any next substantive action.

Conclusion

If applicant has not accounted for any fees required by this Amendment, the Commissioner is hereby authorized to charge to our Deposit Account No. 19-0741. A FOUR MONTH petition for an extension of time is submitted with the attached RCE. If applicant has not accounted for a required extension of time under 37 C.F.R. § 1.136, that extension is requested and the corresponding fee should be charged to our Deposit Account.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

Respectfully submitted,

Date

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Exhibit A - Version with Markings to Show Changes Made (Claims)

1. (Three Times Amended) A DUV-capable microscope objective, comprising:

a lens group that comprises a plurality of lens elements made of quartz glass and fluorite, wherein the objective has a DUV focus at a DUV wavelength, λ_{DUV} greater than or equal to 235 nm, wherein the DUV focus encompasses a DUV wavelength region $\lambda_{\text{DUV}} \pm \Delta\lambda$, where $\Delta\lambda = 8$ nm, wherein the objective has an IR focus for an IR wavelength λ_{IR} greater than or equal to 760 nm at the same focal point as the DUV focus at λ_{DUV} , and wherein a penultimate lens element of the lens group comprises a concave configuration on both sides, wherein an object-side outer radius of the penultimate element is smaller than its image-side outer radius.

19. (Twice Amended) A DUV-capable microscope, comprising:

an objective comprising a plurality of lens elements, wherein the objective has a DUV focus at a DUV wavelength, λ_{DUV} greater than or equal to 235 nm, wherein the DUV focus encompasses a DUV wavelength region $\lambda_{\text{DUV}} \pm \Delta\lambda$, where $\Delta\lambda = 8$ nm, wherein the objective has an IR focus for an IR wavelength λ_{IR} greater than or equal to 760 nm at the same focal point as the DUV focus at λ_{DUV} , and wherein a penultimate lens element comprises a concave configuration on both sides, wherein an object-side outer radius of the penultimate element is smaller than its image-side outer radius; and

an IR laser autofocus system in optical communication with the objective to provide the IR wavelength λ_{IR} and auto-focussing.

22. (Twice Amended) A microscope objective, comprising:

a converging first lens disposed closest to an object being imaged;
a converging second lens disposed along an optical axis after the first lens;
a first doublet lens disposed along the optical axis after the second lens;
a first triplet lens disposed along the optical axis after the first doublet lens;
a second triplet lens disposed along the optical axis after the first triplet lens;

a converging lens group comprising one or more lenses disposed along the optical axis after the second triplet lens;

a diverging penultimate lens comprising concave outer sides, wherein an object-side outer radius is smaller than an image-side outer radius disposed along the optical axis after the converging lens group; and

a diverging doublet lens disposed after the penultimate lens,

wherein the objective has a focal length of 1.6 mm or less at a DUV wavelength, λ_{DUV} greater than or equal to 235 nm, and an IR wavelength, λ_{IR} greater than or equal to 760 nm, and wherein a numerical aperture of the objective is at least 0.8.

23. (Twice Amended) The objective as defined in claim 22, wherein the objective has a DUV focus at a DUV wavelength, λ_{DUV} greater than or equal to 235 nm, wherein the DUV focus encompasses a DUV wavelength region $\lambda_{\text{DUV}} \pm \Delta\lambda$, where $\Delta\lambda = 8$ nm, wherein the objective has an IR focus for an IR wavelength λ_{IR} greater than or equal to 760 nm at the same focal point as the DUV focus at λ_{DUV} .